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<b>TRANSMITTAL FORM</b>  <i>(to be used for all correspondence after initial filing)</i>	Application Number	09/542,897
	Filing Date	April 4, 2000
	First Named Inventor	Jerry H. Chisnell
	Group Art Unit	3677
	Examiner Name	Matthew E. Rodgers
Total Number of Pages in This Submission	Attorney Docket Number	FTP141A US

ENCLOSURES (check all that apply)		
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Firm or Individual name	Remy J. VanOphem
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**EXPEDITED PROCEDURE  
AMENDMENT AFTER FINAL  
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**PATENT APPLICATION  
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Serial No.	09/542,897	Examiner:	M. Rodgers
Inventor:	J. Chisnell	Group Art Unit:	3677
Filing Date:	April 4, 2000	Date:	November 30, 2001
Title:	Composite Sleeve For Sealing A Tubular Coupling		

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**REPLY TO OFFICE ACTION UNDER 37 CFR §1.116**

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Assistant Commissioner for Patents  
Washington, D.C. 20231

**GROUP 3600**

Sir:

To highlight the distinction of the above referenced invention over the prior art as interpreted by the Examiner in the Office Action of April 26, 2002, Paper No. 5, no amendments were made to the claims or specification and the undersigned offers the following remarks.

In the Office Action, the Examiner rejected independent Claims 1, 2, 8 and 15, and dependent claims 3-7 and 9-13 under 35 U.S.C. §102(b) as being anticipated by Baron, U.S. Patent 6,260,851 (WO97/16670). The undersigned attorney respectfully

traverses the Examiner's rejection of independent Claims 1, 2, 8 and 15, and dependent claims 3-7 and 9-13 in view of the following argument for the reason that the claims are not anticipated by Baron.

The test for determining if a reference anticipates a claim, for purposes of a rejection under 35 U.S.C. §102, is whether the reference discloses all the elements of the claimed combination, or the mechanical equivalents thereof, functioning in substantially the same way to produce substantially the same results. As noted by the Court of Appeals of the Federal Circuit in *Lindemann Maschinenfabrick GmbH v. American Hoist and Derrick Co.*, 221 USPQ 481, 485 (Fed. Cir. 1984), in evaluating the sufficiency of an anticipation rejection under 35 U.S.C. §102, the Court stated:

"Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim."

Applicant's independent Claims 1, 2, 8, and 15 all require:

"1. A composite sleeve seal comprising:  
a body portion including at least one collar section having at least one link segment extending therefrom; and  
at least one seal portion contiguous with said at least one collar section and surrounding said at least one link segment to interlock said at least one seal portion with said body portion to form said composite sleeve seal as one integral component."

"2. A composite sleeve seal for sealing a conduit connection, said composite sleeve seal comprising:  
a body portion including a plurality of collar sections spaced apart from one another to define at least one gap therebetween, said collar sections being

**interconnected by at least one link segment spanning said at least one gap; and**

**at least one seal portion interposed said plurality of collar sections in said at least one gap and surrounding said at least one link segment to interlock said at least one seal portion with said body portion to form said composite sleeve seal as one integral component.”**

“8. A fluid-tight conduit connection comprising:  
a female component;  
a male component positioned within said female component such that said female component circumscribes said male component; and  
a composite sleeve seal circumscribing said male component such that said composite sleeve seal is interposed said male and female components for sealing said fluid-tight conduit connection, said composite sleeve seal comprising:

**a body portion including a plurality of collar sections interconnected by at least one link segment; and**

**at least one seal portion interposed said plurality of collar sections and surrounding said at least one link segment to interlock said at least one seal portion with said body portion to integrate said composite sleeve seal;**

**whereby said at least one seal portion is compressed by said male and said female components to primarily seal said fluid-tight conduit connection.”**

“15. A composite sleeve seal comprising:  
a body portion including at least one collar section having at least one link segment extending therefrom; and  
at least one seal portion disposed in axial prolongation with respect to said at least one collar section, said at least one seal portion being molded around at least a portion of said at least one link segment to interlock said at least one seal portion with said body portion to form said composite sleeve seal as one integral component.”

It is respectfully asserted that Baron fails to disclose each and every element of Applicant's independent claims. Specifically, Baron fails to disclose a body portion including at least one collar section as required by Applicant's independent Claims 1 and 15, or a body portion including a plurality of collar sections as required by Applicant's independent Claims 2 and 8.

The Examiner indicated in the Office Action of August 30, 2001, paper number 3, and again in the Office Action of April 26, 2002, paper number 5, that Baron elements 16 and 19 of the embodiment in Figure 2 read on Applicant's body portion and that element 51 of another embodiment of Figure 5 reads on Applicant's collar section. A definition for Applicant's body portion and collar section is provided on page 10, lines 3-4 of the specification which states "As shown in Figure 2, the composite sleeve seal 20 is made up of a body portion 22 having spaced apart collar sections 24 that are annular or ring-like in form." Clearly, the Baron reference elements selectively identified by the Examiner from two of at least five different embodiments disclosed in Baron do not read on Applicant's body portion and collar section as defined in Applicant's claims and supported by the specification. Baron elements 16 and 19 are each described as annular rings (column 4, lines 7-8), not as body portions having spaced apart collar sections that are ring-like as suggested by the Examiner. Baron element 51, as shown in Figure 5, is a junction end (column 4, lines 63-65) and represents the end of the ring 50 in contact with the collar 42. The junction end 51 taught in Baron is described as straight (column 4, lines

64-65), and is an integral part of the ring 50, and is not annular or ring-like in form so as to read on Applicant's collar sections.

Baron also fails to disclose a plurality of collar sections interconnected by at least one link segment as required by Applicant's independent Claims 2 and 8. In the Office Action of August 30, 2001, paper number 3, and again in the Office Action of April 26, 2002, paper number 5, the Examiner combines elements from the discrete embodiments illustrated in Figures 2 and 5 in order to reject Applicant's independent Claims 2 and 8. It is respectfully suggested that the Examiner improperly combines elements from unrelated configurations resulting in an embodiment that was never envisioned by Baron. The Examiner selects individual elements from multiple discrete embodiments without addressing the structural interrelationships therebetween or consider the functionality to determine whether the same results are obtained as is required under *Lindemann, supra*.

Applicant reiterates the position that Baron fails to disclose a composite seal having at least one link segment extending *from a body portion*. First, the "portions 47" in Baron are not link segments. Second, even if the "portions 47" in Baron are viewed as link segments, they do not extend from the body portion (ring 50). Rather, they extend from the O-ring (collar 42).

In response to Applicant's position that "portions 47" in Baron are not link segments, the Examiner asserted that the portions 47 frictionally link seal portion (42) and

collar portion (51) together. The Examiner points to no support in the specification for this position as the portions 47 are adapted to frictionally engage the connector 58 of the pipe (column 5, lines 3-4) and not to link the seal portion and the collar portion as stated by the Examiner.

In response to Applicant's position that even if the "portions 47" in Baron are viewed as link segments, they do not extend from the body portion (ring 50), the Examiner stated that the portions (47) do originate at collar portions (51) and extend therefrom. As previously stated hereinabove, the junction end 51 disclosed in Baron is not a mechanical equivalent to Applicant's collar portions. Furthermore, the portions 47 are integral with the collar 42 (column 4, lines 53-60) such that the portions 47 originate from the collar 42 and not the junction end 51. Additionally, the specific basis for the Examiner's position that the portions 47 originate at the junction end 51 of the ring 50 is unclear as the Examiner has not provided any support in the prior art specification to justify his position.

Applicant reiterates the position that Baron fails to disclose a composite seal having a seal portion surrounding the link segments of the body portion to interlock the seal portion to the body portion. First, the O-ring (collar 42) of Baron does not surround any part of the body portion (ring 50). At best, the O-ring of Baron axially prolongates the body portion of Baron, and perhaps covers a portion of the inside diameter of the body portion of Baron. Second, the O-ring of Baron is not interlocked to the body portion of

Baron. At best, the O-ring of Baron is surface mounted to the body portion of Baron. Thus, Baron fails to disclose the composite seal as specifically claimed by Applicant.

In response to Applicant's position that the O-ring (collar 42) of Baron does not surround any part of the body portion (ring 50), the Examiner asserted that at the point designated by reference numeral (49), the seal portion (42) surrounds the portion of the link segment (47) that extends beyond the collar (51) and becomes flush with the seal portion (42) where the link segment (47) originates just beyond collar (52) and extends in a direction tangential to the curvature of the seal portion (42). As previously indicated, the portions 47 are integral with the collar 42 (column 4, lines 53-60) such that the portions and the collar form a single element. The Examiner's argument is illogical in that he is suggesting that Baron teaches a single element that surrounds itself. Additionally, as the portions 47 and the collar 42 are integral, it is impossible to determine exactly where the portions 47 begin and the collar 42 ends such that the Examiner's argument is inherently subjective and not supported in the Baron specification.

In response to Applicant's position that the O-ring of Baron is not interlocked to the body portion of Baron, the Examiner asserted that the link segments (47) are clearly shown as being in contact with body portion (50) and therefore must at least frictionally interlock the body portion (50). As previously indicated, the portions 47 are adapted to frictionally engage the connector 58 of the pipe (column 5, lines 3-4) and not to link the seal portion and the collar portion as concluded by the Examiner. The Examiner



again appears to read facts into the specification of the prior art reference without providing any basis or support therefor.

Applicant's attorney again cautions that the Baron reference confuses the terms ring and collar throughout the entire patent. For example, in the Baron abstract and the front page figure to which it pertains, the collar (6) is sleeve-like and composed of rigid material, and the ring (5) is an O-ring and is composed of elastomeric material. In contrast, the specification refers to Figure 5 in describing the collar (42) as a double O-ring that is composed of elastomeric material, and in describing the ring (50) as sleeve-like and composed of rigid material. Clearly, the terms ring and collar have been transposed and thus are confused in Baron. Nevertheless, Baron still fails to disclose the composite seal as specifically claimed by Applicant.

Based upon the above argument, Applicant respectfully submits that the Baron reference does not disclose each and every element arranged as in the claim of any of Applicant's independent claims. Therefore, in applying the test for anticipation as set forth above in *Lindemann*, Baron does not anticipate either independent Claim 1, 2, 8 or 15. Further, under principles of claim dependency, Baron does not anticipate any of the dependent claims either. Accordingly, reconsideration and withdrawal of the rejection of Claims 1 through 13 and 15 under 35 U.S.C. §102(b) is respectfully requested.

Applicant's attorney respectfully asserts that Applicant's invention is allowable also for the reason that Applicant's invention is not an obvious improvement over the prior art.

With respect to a rejection under 35 U.S.C. §103, it is noted in MPEP Section 706 that the standard of patentability to be followed in the examination of a patent application is that which was enunciated by the Supreme Court in *Graham v. John Deere*, 148 USPQ 459 (1966), where the Court stated:

"Under Section 103, the scope and the content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved."

Accordingly, to establish a prima facie case of obviousness, the Patent Office must; (1) set forth the differences in the claim over the applied references; (2) set forth the proposed modification of the references which would be necessary to arrive at the claimed subject matter; and (3) explain why the proposed modifications would be obvious. To satisfy step (3) above, the Patent Office must identify where the prior art provides a motivating suggestion, inference or implication to make the modifications proposed in step (2) above. *In re Jones*, 21 USPQ2d 1941 (Fed. Cir. 1992). Prior to discussing the unobviousness of the present invention over the prior art, the problems, teachings, and disclosure of each of the Baron reference and Applicant's invention will be set forth, then the differences of the present invention over the prior art reference will be set forth.

Baron is directed to the problem of O-ring damage and the attendant difficulties in inserting a tubular connector having an O-ring into a connecting orifice. To overcome this problem, Baron teaches a composite gasket to be frictionally fit around a rigid tube end that is to be inserted into a cylindrical bore of a component. The gasket includes a rubber ring (or is it collar?) in the axial prolongation of a coaxial rigid collar (or is it ring?). The end of the collar that engages the ring in axial prolongation has a ring-engaging shape that is complementary to that of the ring.

Applicant's invention is directed to the problem in the prior art associated with machining O-ring grooves in the end of a tube and with poor sealability of tubular connections. Applicant teaches a composite sleeve seal that can easily be slipped over the end of a tube and that provides a seal that is superior to that achievable with conventional O-rings disposed in grooves of a tube end. The composite sleeve seal includes at least one relatively rigid body portion that is collar-like in shape. Link segments integrally and axially extend from the body portion. A seal portion that looks like an O-ring is molded to the body portion so as to surround the link segments such that the seal portion interlocks with the body portion.

Clearly, there are significant differences between Applicants' invention and Baron. First, Baron teaches a conventional O-ring that is adhered to a cylindrical collar in axial prolongation of the collar. In contrast, Applicant teaches a seal portion that is molded to a rigid body portion around axially extending link segments that integrally extend from

the rigid body portion. Thus, no adhesion process is needed. Second, each alternating collar and ring of Baron must be individually manufactured, resulting in an abundance of individual parts to be made, handled, and assembled together. Third, each alternating collar and ring must be adhered together, thus resulting in still more manufacturing steps. Fourth, due to the harsh environment in which such gaskets are used, an adhered connection between the collars and rings may separate. Consequently, the manufacture of the gasket is relatively time consuming and expensive, while performance of such an adhered thermoplastic in a demanding environment is not well established.

Therefore, Applicant asserts that Applicant's invention is unobvious for the following reasons. The differences between Applicant's invention and the prior art references are quite clear. As set forth below, Applicant's invention yielded unexpected results in solving a general long-felt but unsolved need in the prior art.

Applicant solved a general long-felt but unsolved need in the prior art of sealing tubular connections. Reduction of part count, part complexity, and part costs as well as corresponding reduction in the manufacturing complexity of tubular connections is an ongoing need in this mature and competitive industry. Up until Applicant's invention, no one has recognized, much less suggested or used, an integrated composite sleeve to replace the classic groove and O-ring configuration for a tubular end-form. Applicant now provides a fluid-tight conduit connection that requires neither extensive tube nor seal manufacturing operations and that enhances the sealing capability of a tubular coupling.

Therefore, Applicant's invention addresses and makes another significant step toward reduction of complexity of tubular connection design and manufacture.

Accordingly, Applicant's invention is an unobvious improvement over the prior art and not an obvious modification of any of the references of record in this application. When viewed singularly or collectively, none of the prior art references of record disclose, teach, or suggest an integrated composite sleeve seal for use with a tubular connection and, in fact, Applicant performs this for the first time. Reconsideration and withdrawal of the Examiner's rejections are, therefore, respectfully requested.

In view of the foregoing remarks, the undersigned attorney respectfully submits that the pending independent and dependent claims are in proper form, define patentably over the prior art, and are clearly allowable. Applicant's attorney, therefore, respectfully requests that the Examiner's rejections and/or restriction under 35 U.S.C. §§102 and 121 be reconsidered and withdrawn and that a formal Notice of Allowance of the application be issued.

Every attempt has been made to place the claims in condition for allowance and it is respectfully asserted that there are no further issues, formal or substantive, that remain for prosecution. Formal allowance of the application is, therefore, respectfully solicited. In the event the Examiner is not persuaded of the patentability of the claims herein, he is respectfully requested to enter the amendment for purposes of appeal.

If the Examiner has any questions with respect to any matter now of record,  
Applicant's attorney may be reached at (248) 362-1210.

Respectfully submitted,

VANOPHEM & VANOPHEM, P.C.



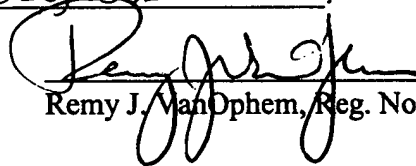
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Date: June 20, 2002



Remy J. VanOphem, Reg. No. 27053